

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Kazuma TOMIZUKA et al.

Title: METHOD FOR MODIFYING CHROMOSOMES

Appl. No.: 09/763,362

Filing Date: 04/23/2002

Examiner: Thaian N. Ton

Art Unit: 1632

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**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56. A copy of each listed document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

**TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(c), before the mailing date of either a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.113, or an action that otherwise closes prosecution in the application.

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**RELEVANCE OF EACH DOCUMENT**

Document A7 is an equivalent of WO/97/07671-A1 cited in the International Search Report.

Documents A7-A9, A14-19 are cited in the International Search Report.

Documents A14-16, A18 and A20 are cited in the European Search Report.

Any document listed on the attached PTO/SB/08 was cited as being relevant during the prosecution of the corresponding International Application No. PCT/JP99/04518 and European Application No. EP 99 93 8578. A copy of the International and European Search Reports are attached setting forth the portion of each document considered relevant by the examiner.

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

**FEE**

A fee in connection with submission of an information disclosure statement under 37 CFR §1.97(c) in the amount of \$180.00 in accordance with 37 CFR §1.17(p) is attached.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed

herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date June 11, 2003

By

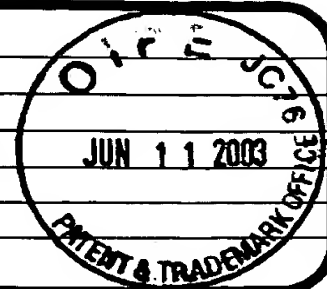
A handwritten signature in dark ink, appearing to read "S. A. Bent", is written over a horizontal line.

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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: June 11, 2003 (use as many sheets as necessary)				<b>Complete if Known</b>	
Sheet <span style="border: 1px solid black; padding: 0 5px;">1</span> of <span style="border: 1px solid black; padding: 0 5px;">2</span>		Application Number Filing Date First Named Inventor Group Art Unit Examiner Name Attorney Docket Number		09/763,362 04/23/2002 Kazuma TOMIZUKA 1632 Thaian N. Ton 081356-0158	



U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	5,614,396		Bradley et al.	03/25/1997	<b>RECEIVED</b>  JUN 13 2003  TECH CENTER 1600/2900
	A2	5,543,319		Fournier et al.	08/06/1996	
	A3	4,959,317		Sauer	09/25/1990	
	A4	5,270,201		Richards et al.	12/14/1993	
	A5	6,395,487	B1	Bradley et al.	05/28/2002	
	A6	6,461,818	B1	Bradley et al.	10/08/2002	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	A7	EP	0 843 961	A1	Kirin Beer Kabushiki Kaisha	05/27/1998	✓	
	A8	WO	98/54348	A1	Babraham Institute	12/03/1998	✓	
	A9	WO	97/49804	A1	Baylor College of Medicine	12/31/1997		
	A10	WO	98/46733	A1	Imperial College of Science Technology and Medicine	10/22/1998		
	A11	WO	91/19796	A1	Baylor College of Medicine	12/26/1991		
	A12	WO	95/32297	A1	Cancer Research Campaign Technology Limited	11/30/1995		
	A13	WO	89/09219	A1	The General Hospital Corporation	10/05/1989		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A14	Tomisuka K. et al., "Function Expression and Germline Transmission of a Human Chromosome Fragment in Chimeric Mice", <i>Nature Genetics</i> , 1997, Vol. 16, pp. 133-143.	
	A15	Dieken E. S. et al., "Efficient Modification of Human Chromosomal Alleles Using Recombination-Proficient Chicken/Human Microcell Hybrids", 1996, <i>Nature Genetics</i> , Vol. 12, pp. 174-182.	
	A16	Smith A. J.H. et al., "A Site-Directed Chromosomal Translocation induced in embryonic Stem Cells by Cre-loxP Recombination", 1995, <i>Nature Genetics</i> , Vol. 9, pp. 376-385.	
	A17	Wilmut I et al., "Viable Offspring Derived from Fetal and Adult Mammalian Cells, <i>NATURE</i> , 1997, Vol. 385., P. 810.	
	A18	Ramirez-Soliz R. et al., "Chromosome Engineering in Mice", <i>NATURE</i> , 1995, Vol. 378, pp. 720-724.	

Examiner Signature	Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

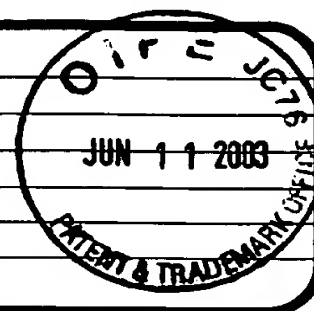
<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		<b>Application Number</b>	09/763,362
		<b>Filing Date</b>	04/23/2002
Date Submitted: June 11, 2003		<b>First Named Inventor</b>	Kazuma TOMIZUKA
		<b>Group Art Unit</b>	1632
(use as many sheets as necessary)		<b>Examiner Name</b>	Thaian N. Ton
		<b>Attorney Docket Number</b>	081356-0158
Sheet	2	of	2



NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A19	Mills W. et al., "Generation of ~2.4 Mb Human X Centromere-Based Minichromosome by Targeted Telomere-Associated Chromosome Fragmentation in DT40", <i>Human Molecular Genetics</i> , 1999, Vol. 8, No. 5, pp. 751-761.	
	A20	Farr C.J. et al., "Generation of a Human X-Derived Minichromosome using Telomere-Associated Chromosome Fragmentation", <i>The EMBO Journal</i> , 1995, Vol. 14, No. 21, pp. 5444-5454.	
	A21	Shen M.H. et al., "Human Mini-Chromosomes in Mouse Embryonal Stem cells", <i>Human Molecular Genetics</i> , 1997, Vol. 6, No. 8, pp. 1375-1382.	
	A22	Brown W. et al., "Mammalian Artificial Chromosomes", <i>Genetics of Disease</i> , pp. 281-288.	
	A23	Quin M. et al., "Cre Recombinase-Mediated Site-Specific Recombination Between Plant Chromosomes", <i>Proc. Natl. Acad. Sci. USA</i> , 1994, Vol. 91, pp. 1706-1710.	
	A24	Koi M. et al., "Tumor Cell Growth Arrest Caused by Subchromosomal Transferable DNA Fragments From Chromosome 11", <i>SCIENCE</i> , 1993, Vol. 260.	
	A25	Schnieke A.E. et al., "Human Factor IX Transgenic Sheep Produced by Transfer of Nuclei From Transfected Fibroblasts", <i>SCIENCE</i> , 1997, Vol. 278.	
	A26	Cibelli J.B. et al., "Cloned Transgenic Calves Produced from Nonquiescent Fetal Fibroblasts", 1998, <i>SCIENCE</i> , Vol. 280.	
	27	Kuroiwa Y. et al., "Efficient Modification of a Human Chromosome by Telomere-Directed Truncation in High Homologous Recombination-Proficient Chicken DT40 Cells", <i>Nucleic Acids Research</i> , 1998, Vol. 26, No. 14, pp. 3447-3448.	
	28	Grimes B. et al., "Engineering Mammalian Chromosomes", <i>Human Molecular Genetics</i> , 1998, Vol. 7, No. 10 Review, pp. 1635-1640.	

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